Armed Forces College of Medicine

AFCM

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Capillary Blood Glucose measurement

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Intended Learning Outcomes (ILOs)

By the end of this session the student will be able to:

- Learn how to obtain a capillary blood sample for glucose testing.
- Practice obtaining a capillary blood glucose sample.

Capillary Blood Glucose Measurement

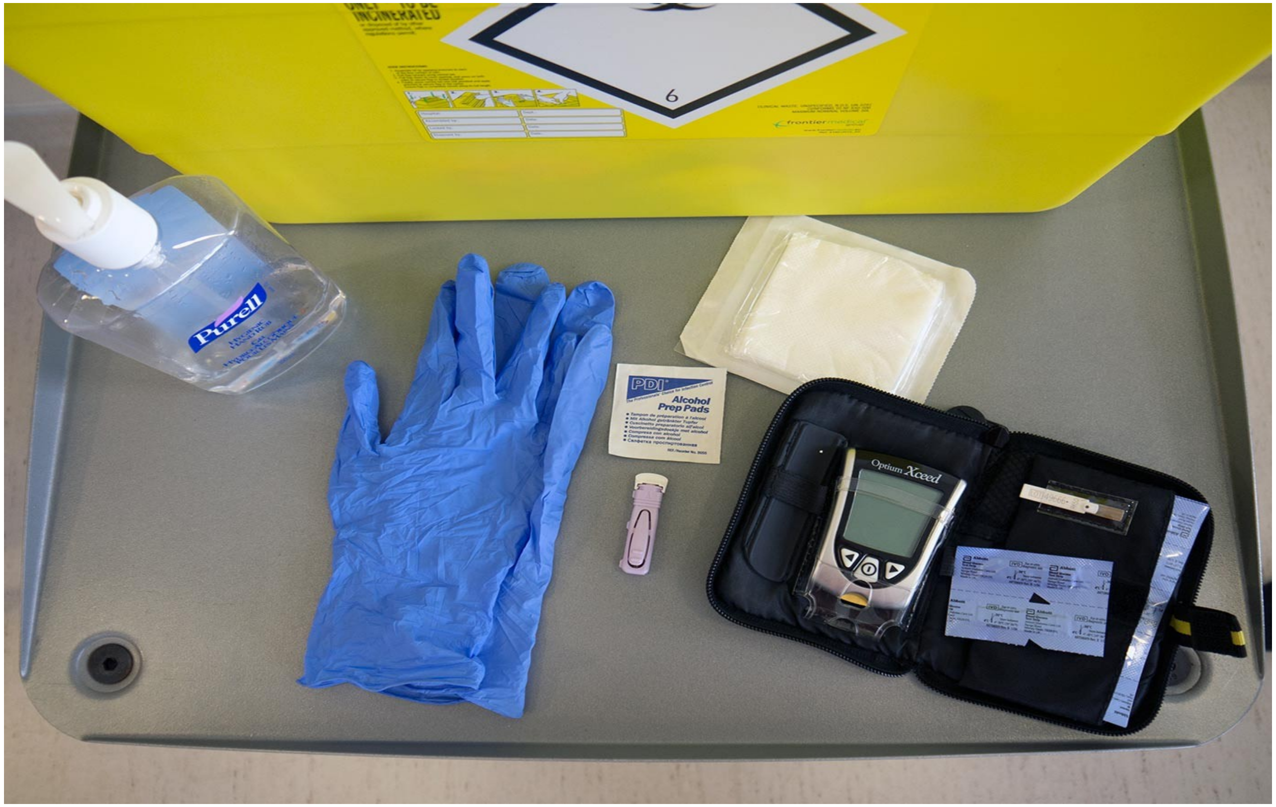
- Blood glucose monitoring, is the skill where you test a patient’s blood to assess the glucose levels within the blood.

- Patients with diabetes mellitus will perform this on themselves daily to monitor their glucose levels. It is therefore performed routinely on diabetic patients in hospital and also in all unconscious/collapsed patients that are brought into ER to ensure the patient is not having
a hypoglycemic or hyperglycemic episode.

Procedure Steps

Step 01

- Ensure you have all necessary equipment for the procedure:
- Gloves.
- An alcohol wipe.
- A blood glucose monitor.
- Test strips.
- Spring loaded lancet.
- Cotton wool.



Blood glucose measurement equipment

Step 02

- Introduce yourself and explain the procedure to the patient. The patients may be used to perform this procedure on themselves, however it is important to make sure of this and that you have their consent.

Introduce yourself to the patient

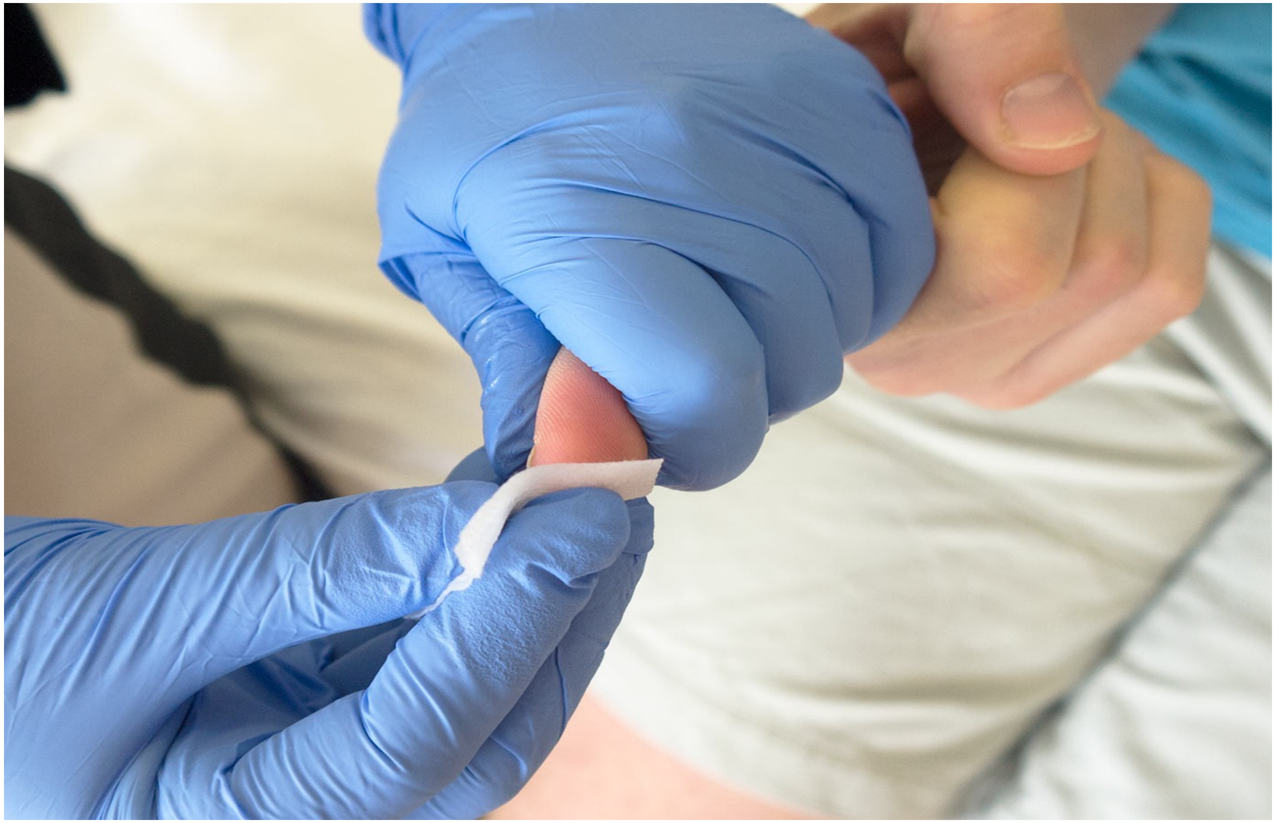
Step 03

- Wash your hands and put on your gloves. Turn on the glucose monitor and ensure that it has been calibrated. If not, insert the calibration strip and allow it to calibrate.

Wash your hands

Step 04

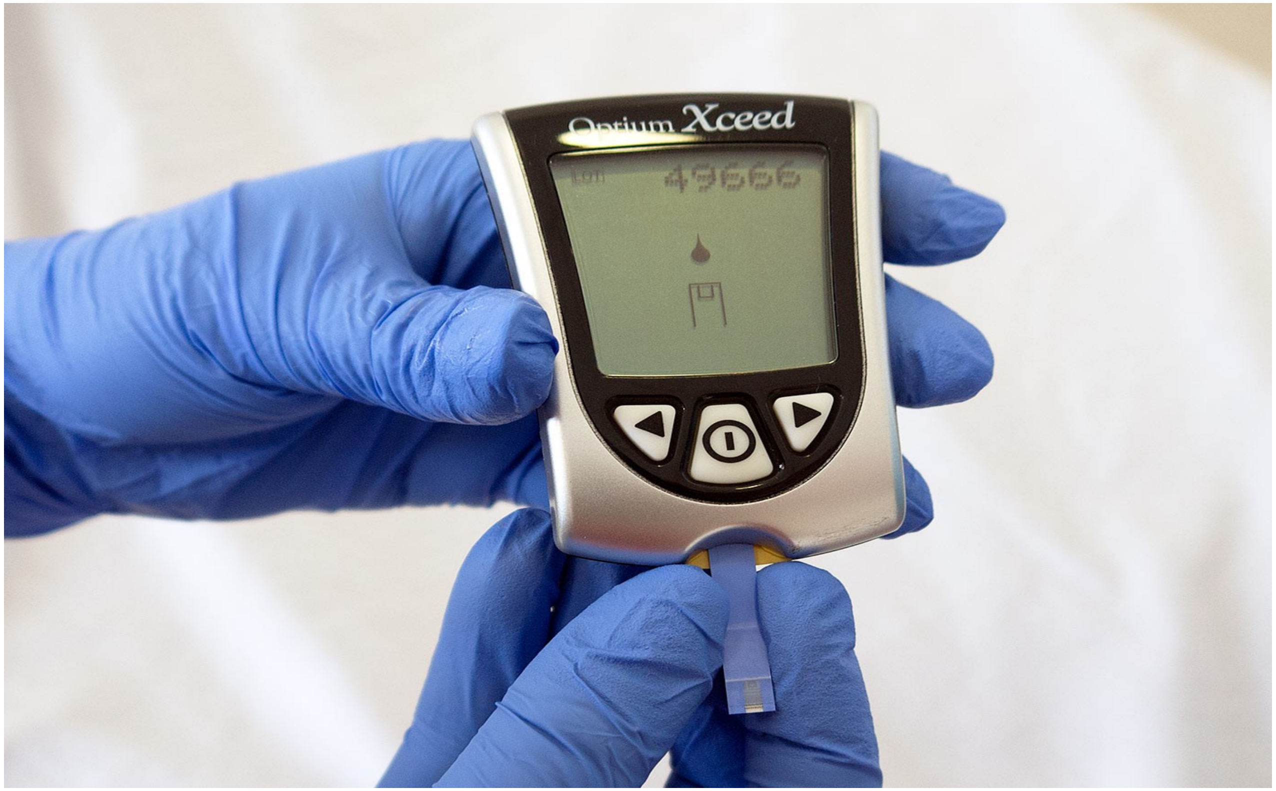
- Clean the tip of one of the patient’s fingers with an alcohol wipe and allow it to dry.
- Note that any sugar on the patient’s finger from a sweet/candy will give a falsely elevated reading.



Clean the tip of the patient’s finger

Step 05

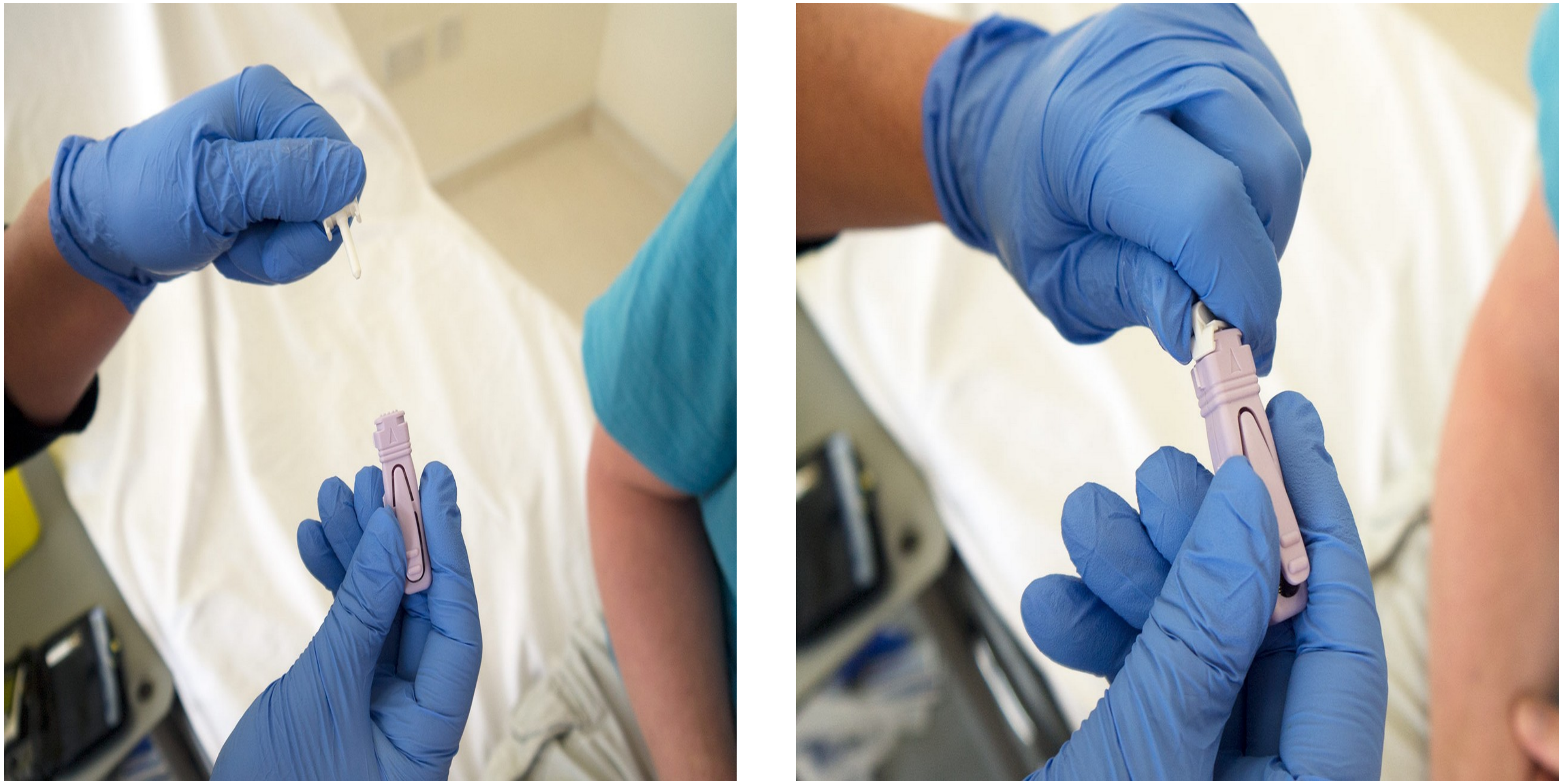
- Prepare the test strip, ensuring that it is still in date.
- Load it into the glucose monitor.



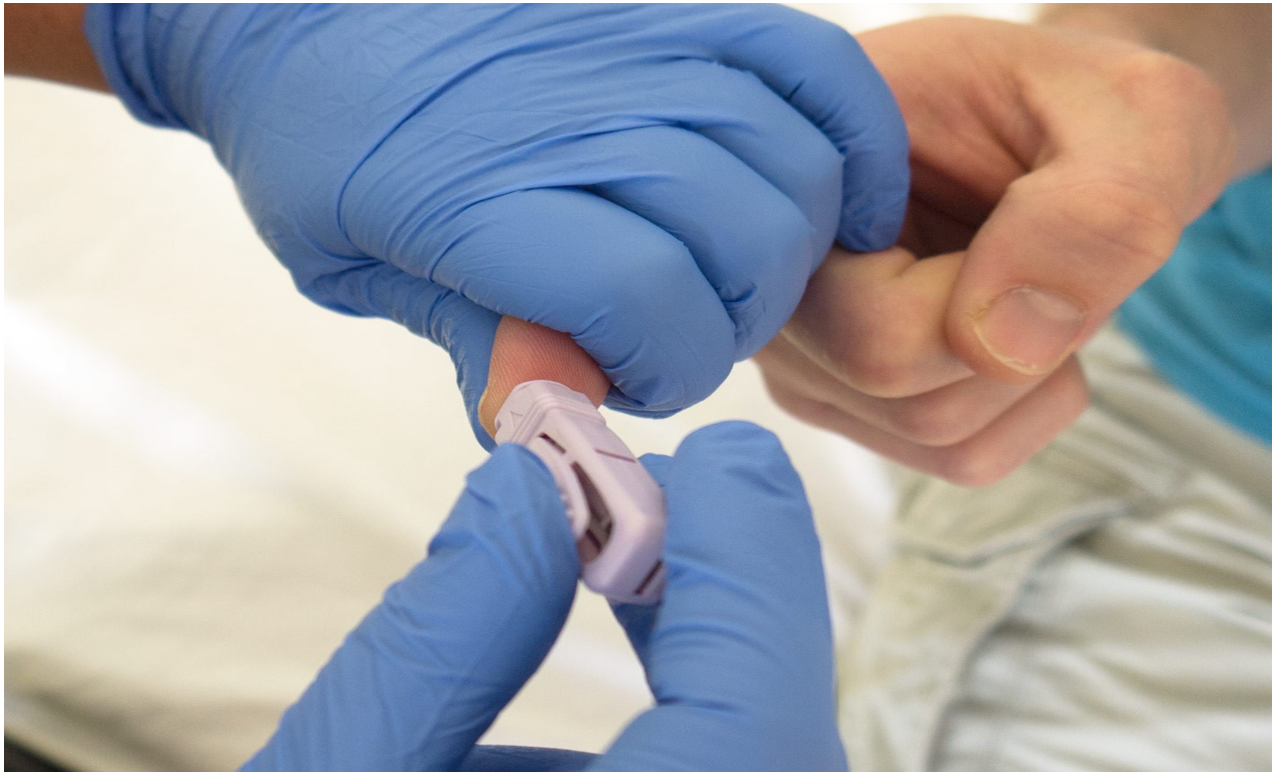
Load the test strip into the glucose monitor

Step 06

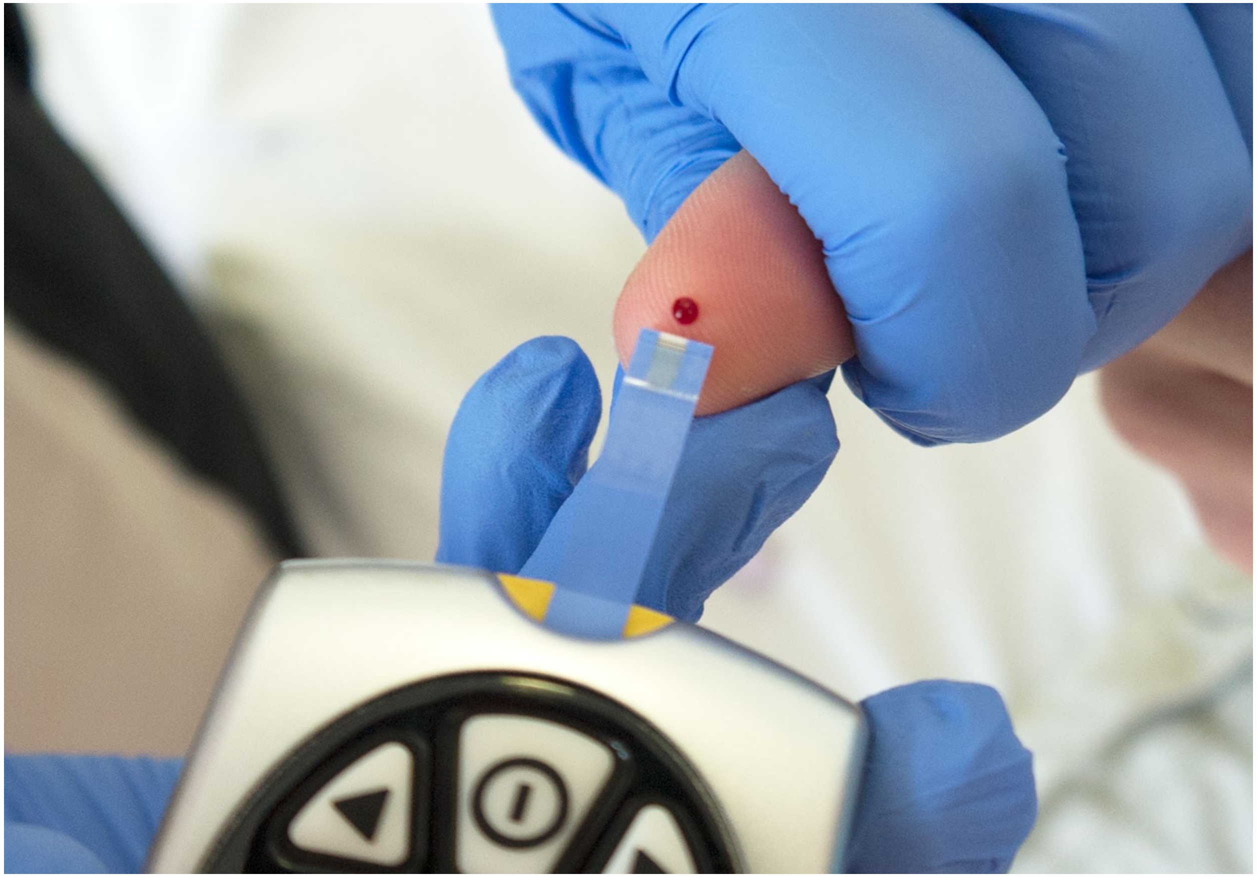
- Open the lancet carefully. Prick the side of the patient’s finger with the lancet and squeeze the finger.
- Wipe away the first drop of blood and squeeze the finger again to form another drop.
- Place this drop on the test strip so that it covers the strip entirely.



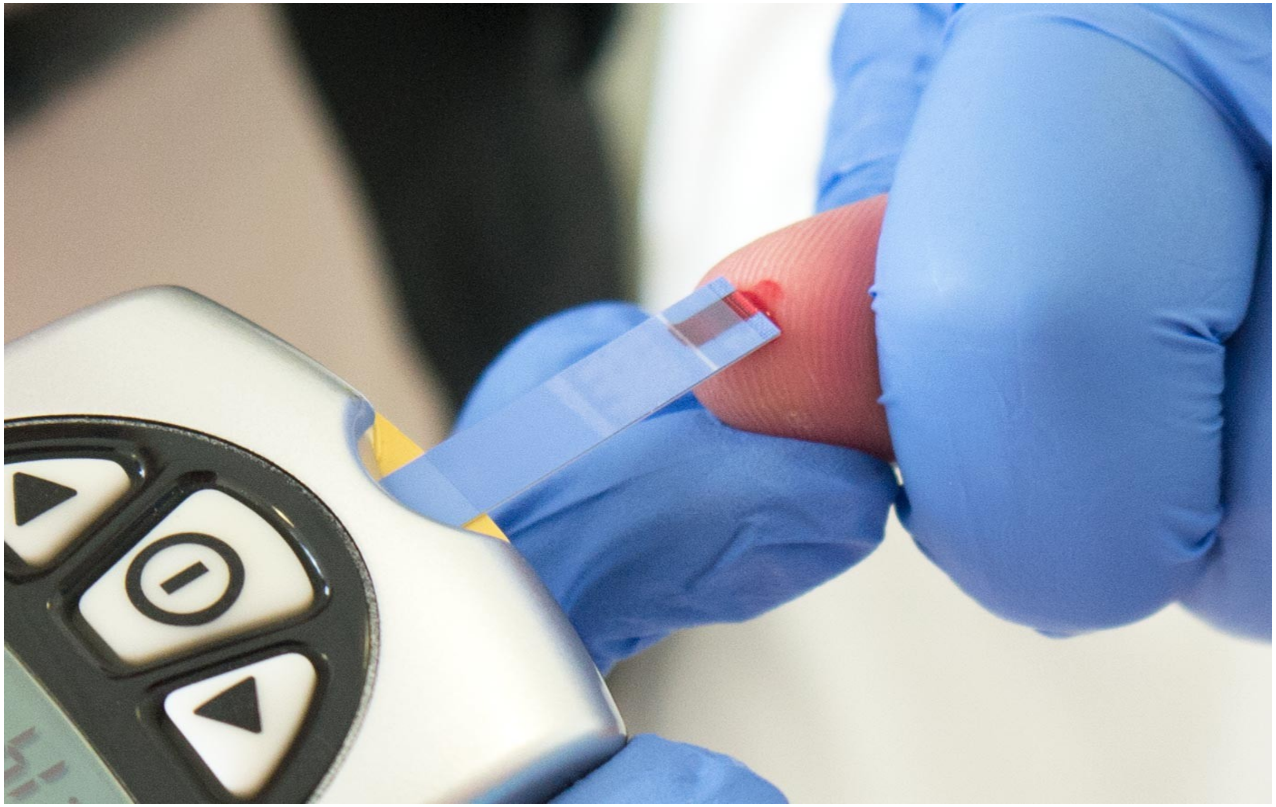
Open the lancet



Prick the side of the patient’s finger



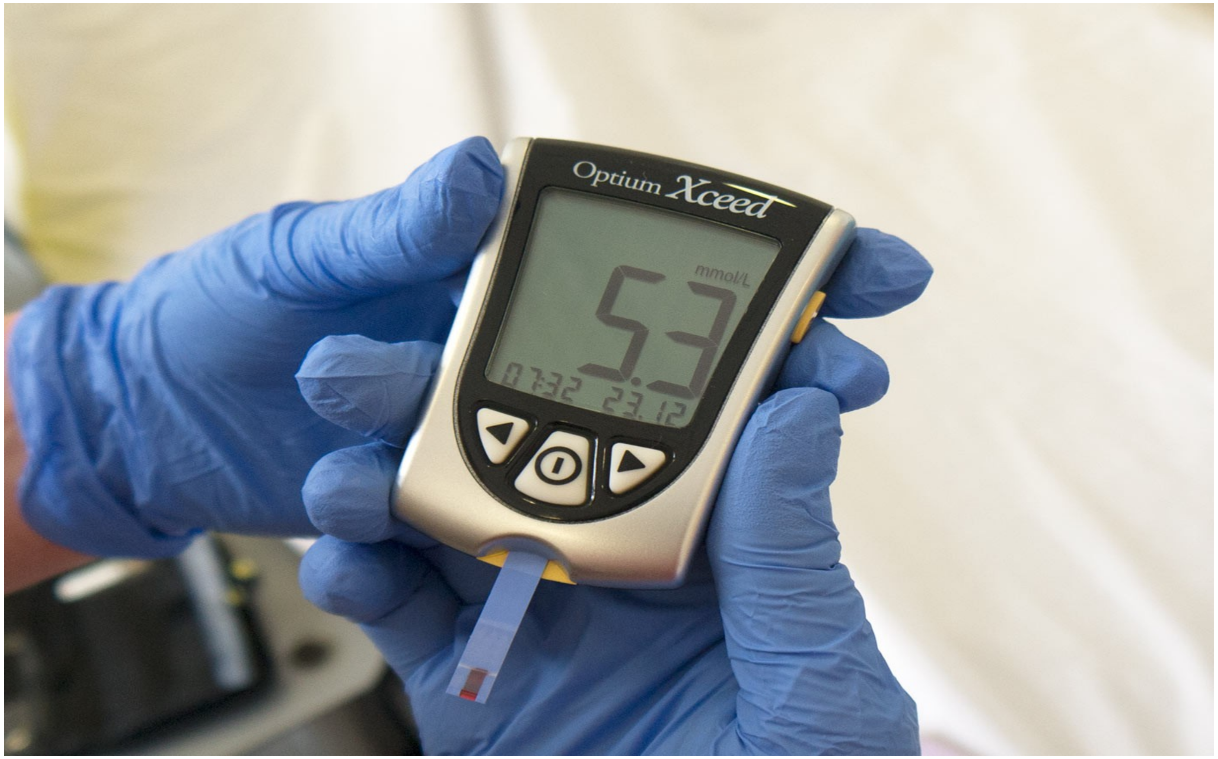
Place the drop of blood onto the test strip



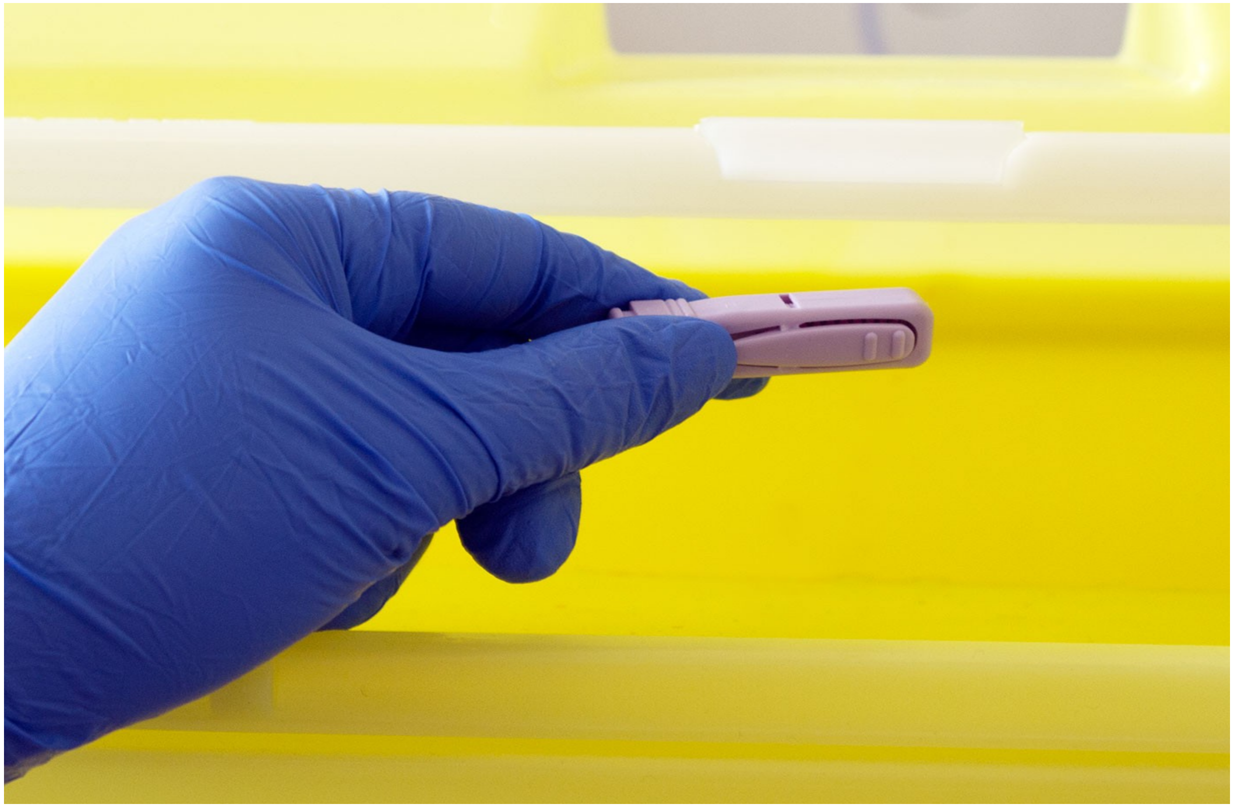
Ensure the blood covers the strip entirely

Step 07

- Give the patient a piece of cotton wool to stop the bleeding.
- Safely dispose of the lancet, the test strip, and your gloves in the clinical waste bin.
- Thank the patient and record the reading from the glucose monitor.



Record the reading from the glucose monitor



Dispose of the lancet in the clinical waste bin

Conclusion

- What the values for normal, diabetes and impaired glucose tolerance are?
- Follow up may include taking a venous blood glucose sample or arranging an oral glucose tolerance test (OGTT).

Watch the following video for clarifying the steps

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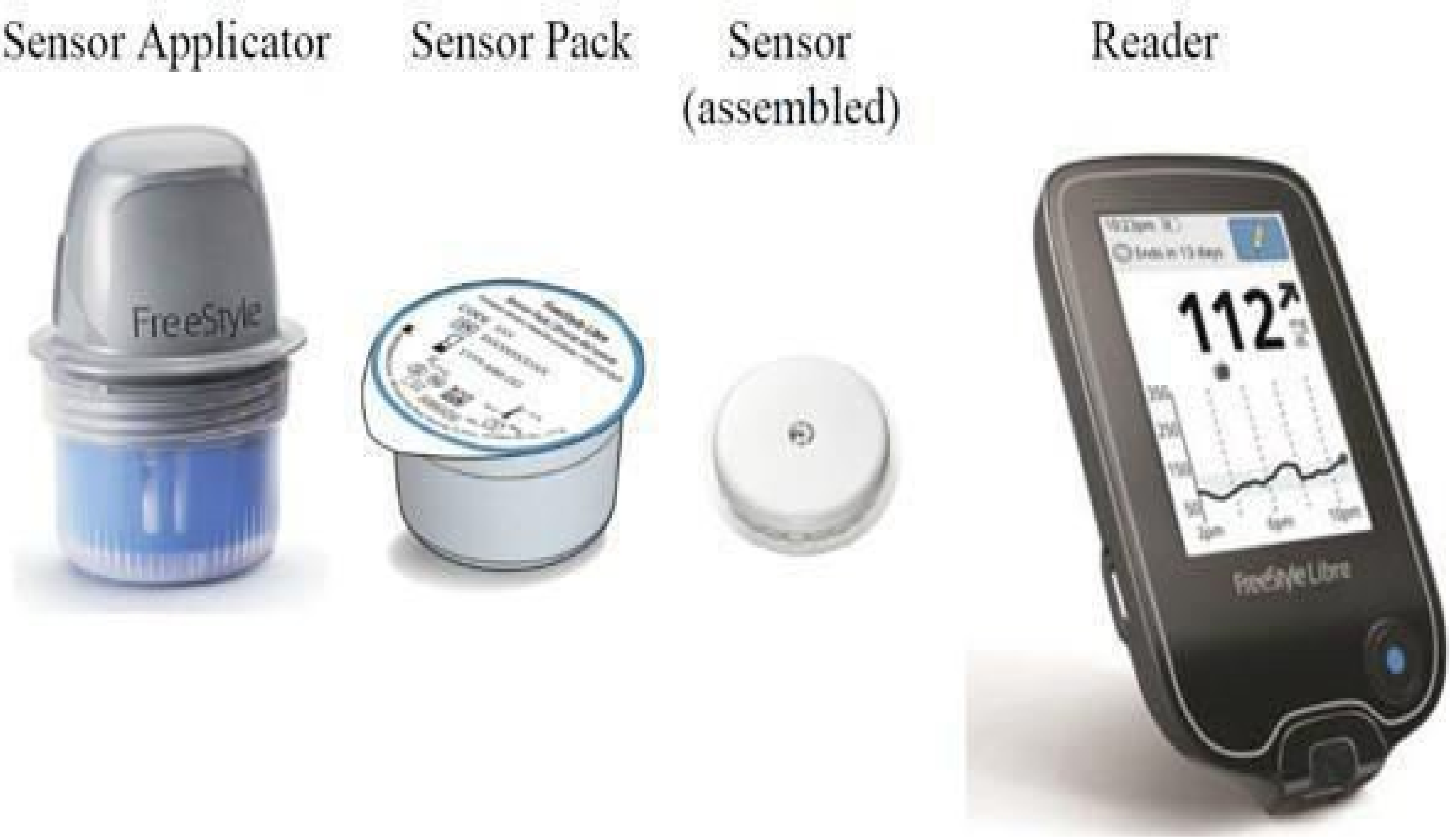
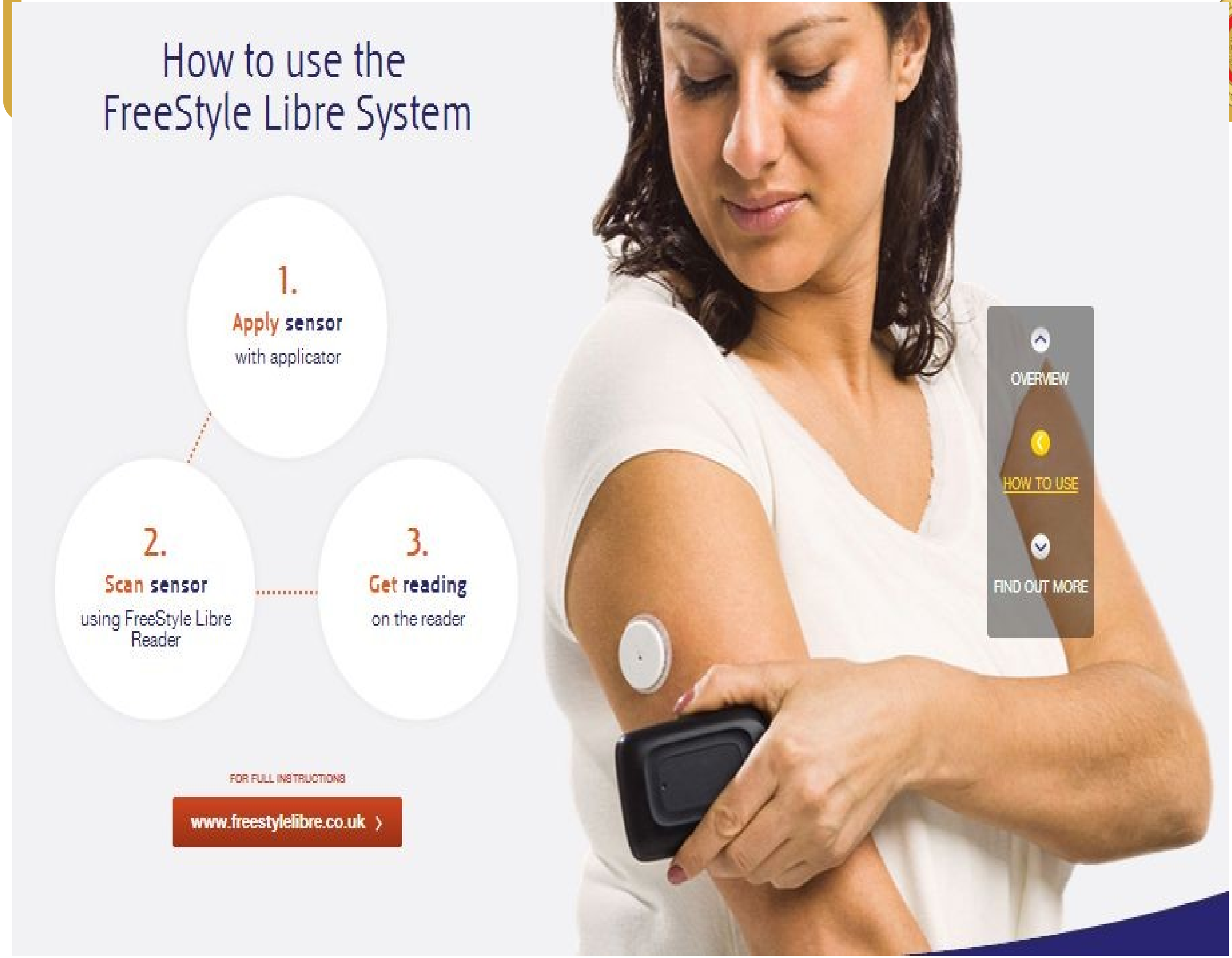
Free Style Libre





How to use the FreeStyle Libre System

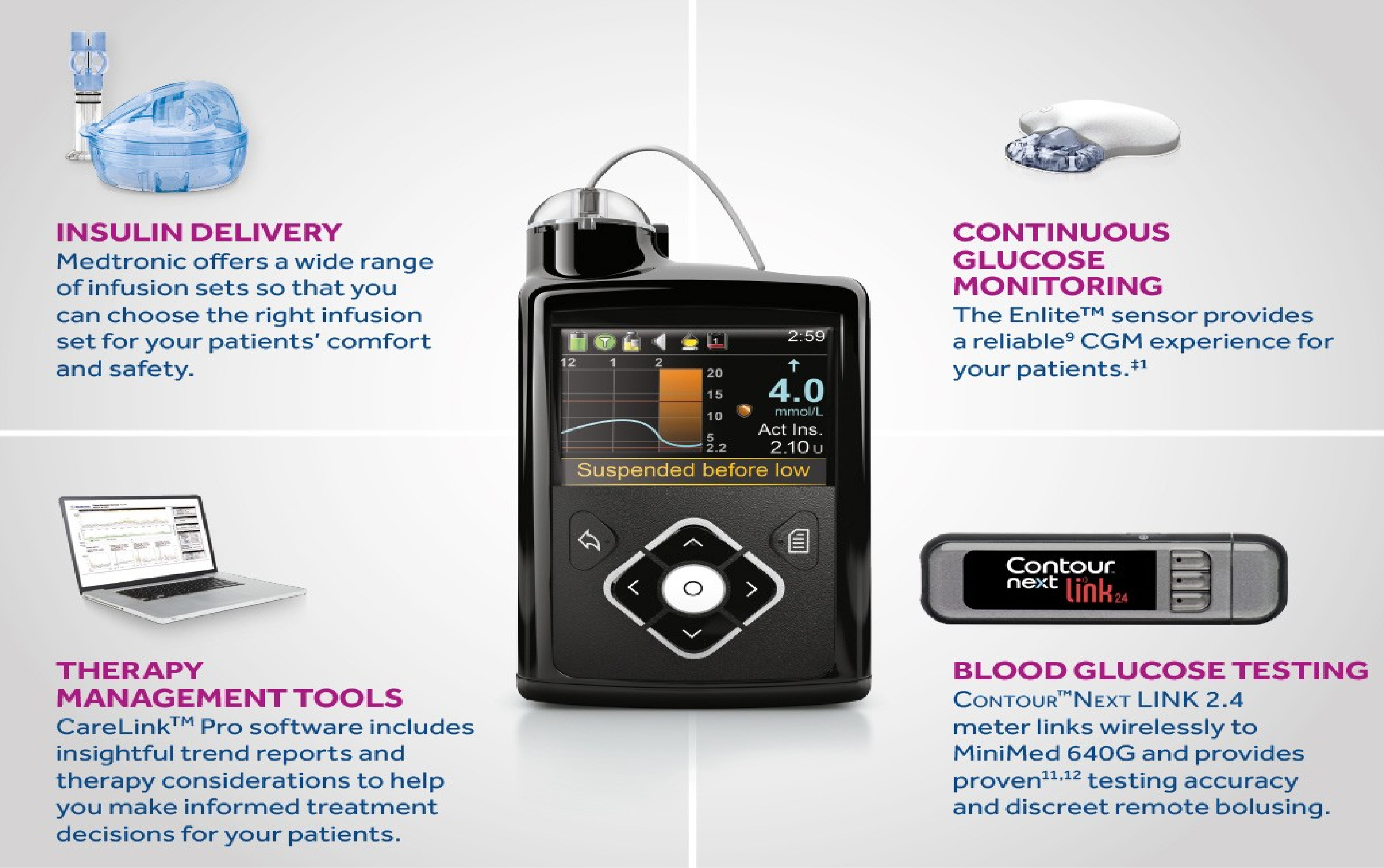
1. **Apply sensor** with applicator

2. **Scan sensor** using FreeStyle Libre Reader

3. **Get reading** on the reader

FOR FULL INSTRUCTIONS

Closed loop insulin pump



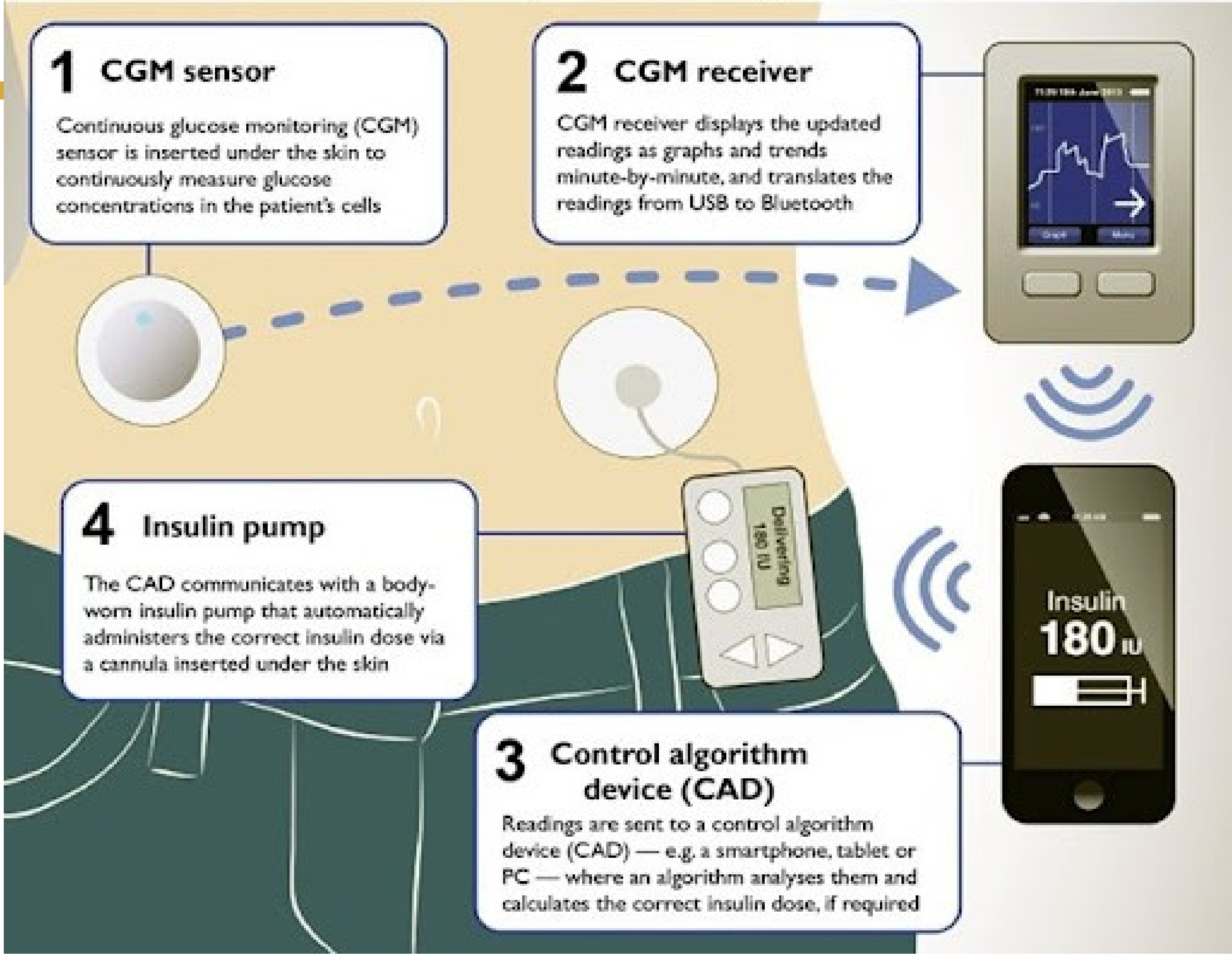
INSULIN DELIVERY
Medtronic offers a wide range of infusion sets so that you can choose the right infusion set for your patients' comfort and safety.

THERAPY MANAGEMENT TOOLS
CareLink™ Pro software includes insightful trend reports and therapy considerations to help you make informed treatment decisions for your patients.

CONTINUOUS GLUCOSE MONITORING
The Enlite™ sensor provides a reliable[9] CGM experience for your patients.[‡1]

BLOOD GLUCOSE TESTING
Contour™Next LINK 2.4 meter links wirelessly to MiniMed 640G and provides proven[11,12] testing accuracy and discreet remote bolusing.

Artificial pancreas *at a glance*



1 CGM sensor

Continuous glucose monitoring (CGM) sensor is inserted under the skin to continuously measure glucose concentrations in the patient's cells

2 CGM receiver

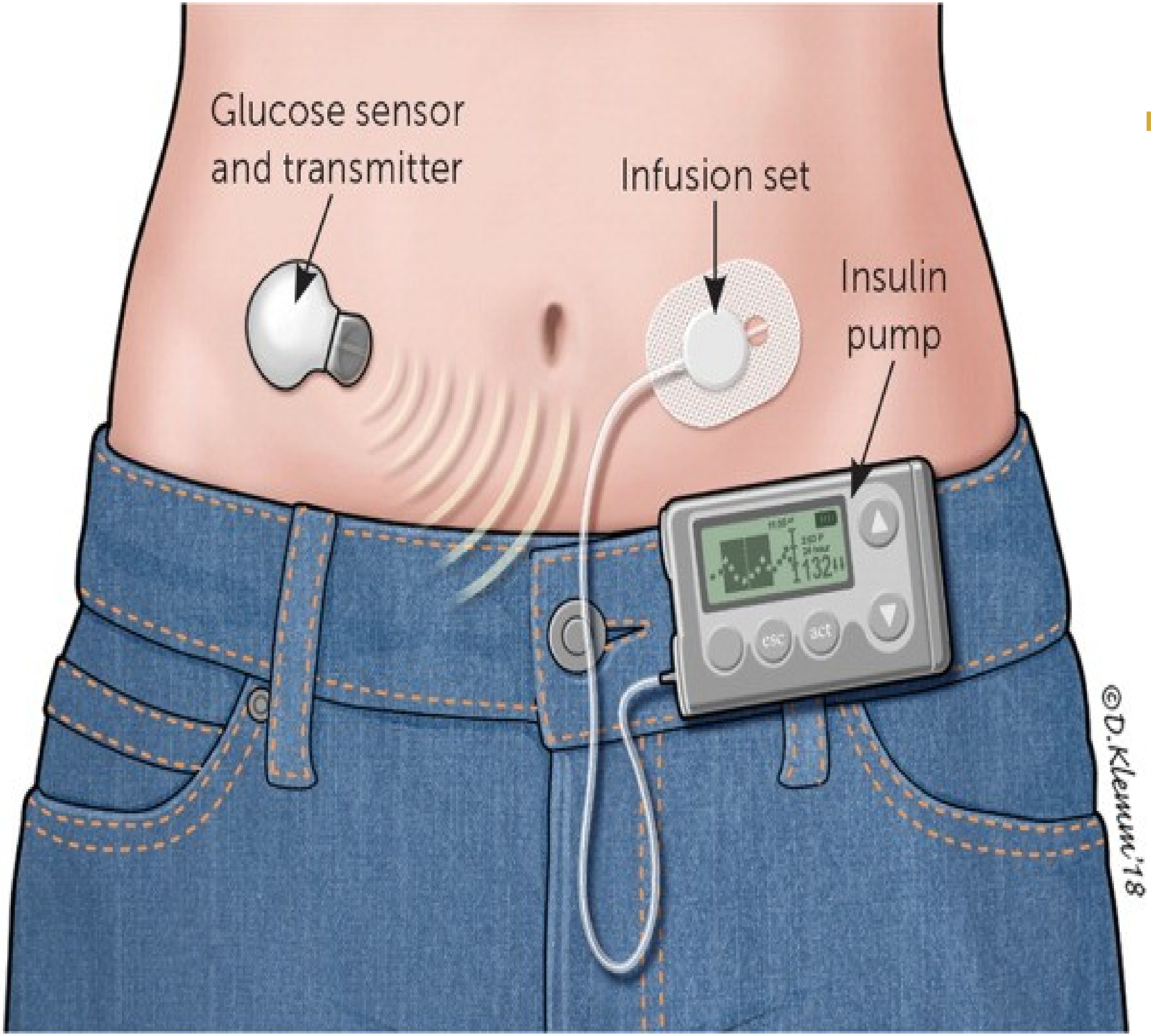
CGM receiver displays the updated readings as graphs and trends minute-by-minute, and translates the readings from USB to Bluetooth

3 Control algorithm device (CAD)

Readings are sent to a control algorithm device (CAD) — e.g. a smartphone, tablet or PC — where an algorithm analyses them and calculates the correct insulin dose, if required

4 Insulin pump

The CAD communicates with a body-worn insulin pump that automatically administers the correct insulin dose via a cannula inserted under the skin


Glucose sensor and transmitter
Infusion set
Insulin pump
132
esc
act

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Thank You